National Aeronautics and
Space Administration

INSPIRE - ENGAGE - EDUCATE - EMPLOY

The Next Generation of Explorers

US Department of Education/NASA
STEM Design Challenge Collaboration
Phase IV

"The 21st Century Community Learning Center's 2019 Summer Symposium has been funded in part with Federal funds from the U.S. Department of Education. Any products mentioned are only examples and do not constitute endorsement by the U.S. Government."

July 17, 2019

Rob Lasalvia, NASA
Maria Arredondo, NASA

STEM Design Challenge Background

What	A partnership between NASA and the US Department of Education's 21st Century Community Learning Centers
Who	Sites execute a series of engineering design challenges in 3rd – 8th grades, enabling them to develop solutions to real world science and engineering problems faced by NASA scientists, engineers and astronauts today
Where	The collaboration will support an expansion of STEM opportunities for students across the country in up to 25 states
When	Fall 2019 – Spring 2021 Two sessions available: 2019-2020 School Year and 2020-2021 School Year

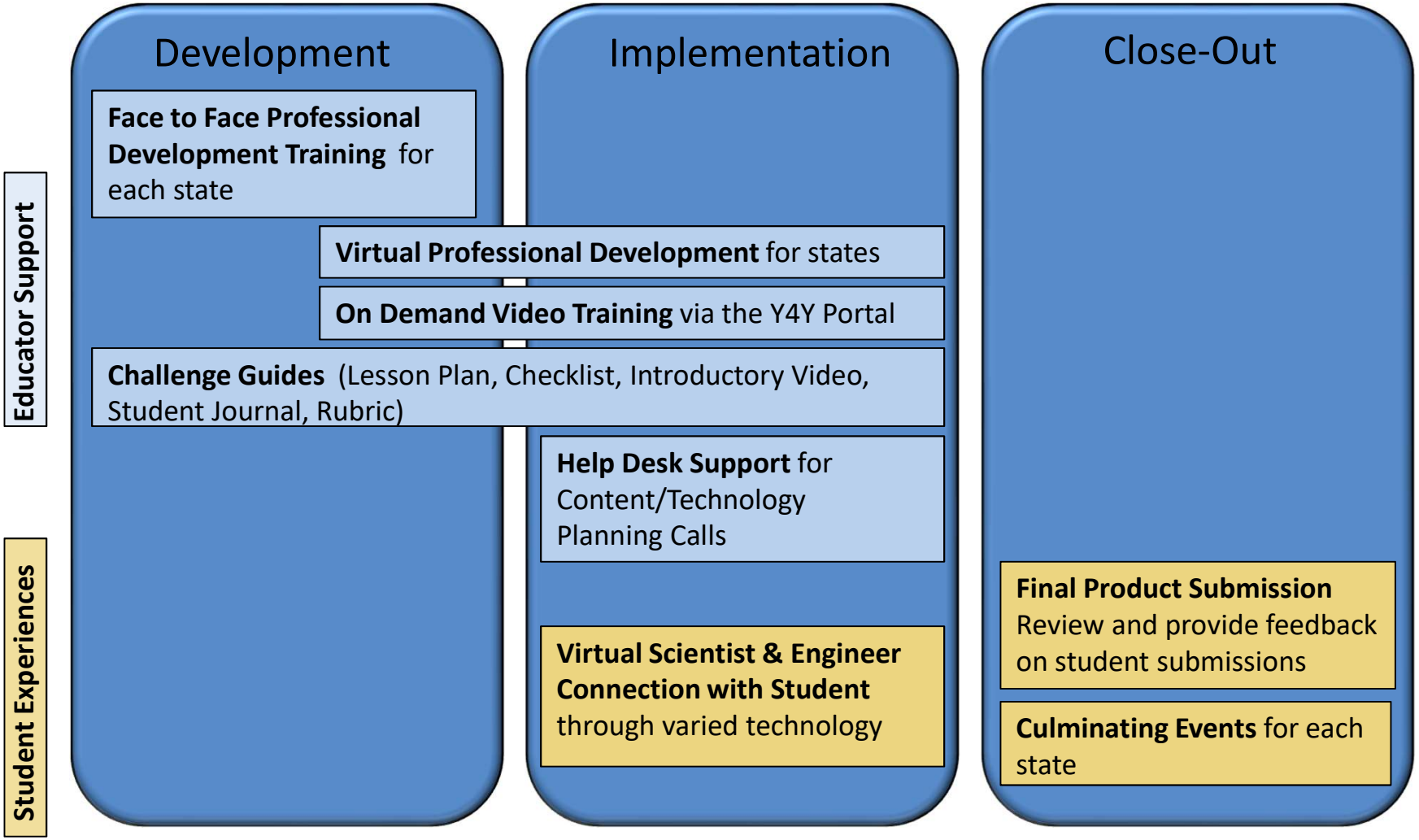
Project Overview

Scalability of Partnership

Phase IV SY 2019-2020: Participating States				
Florida		Nebraska		Rhode Island
Idaho		New Mexico		Texas
Iowa		New York		Virginia
Kentucky		North Carolina		Washington
Massachusetts		Oklahoma		West Virginia
Michigan		Ohio		Wisconsin
Minnesota		Oregon		Wyoming
Montana		Pennsylvania		

Phase	States	Sites
I (FY 14)	3	21
II (FY 15)	10	70
III (FY 16/17)	15	140
IV (FY 19-20)	23	310

Implementation Training and Support Plan



Engineering Design Challenge Menu (19-20 SY)

6th – 8th Grade Options

Parachuting onto Mars
Develop a drag device to slow a spacecraft for entry, descent, and landing.

Spacecraft Safety
Help design NASA's next generation spacecraft!

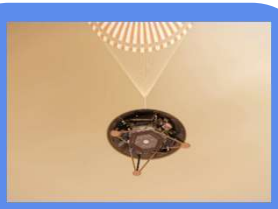
Why Pressure Suits?
Develop a containment system to protect astronauts from the vacuum of space.

Packing up for the Moon
Develop a plant growth system to help sustain astronauts on a lunar surface.

Let it Glide
Build a shoebox glider to produce the greatest glide slope.

3rd – 5th Grade Options

Safe Travels
Develop safety devices for astronauts traveling to the Moon or Mars.

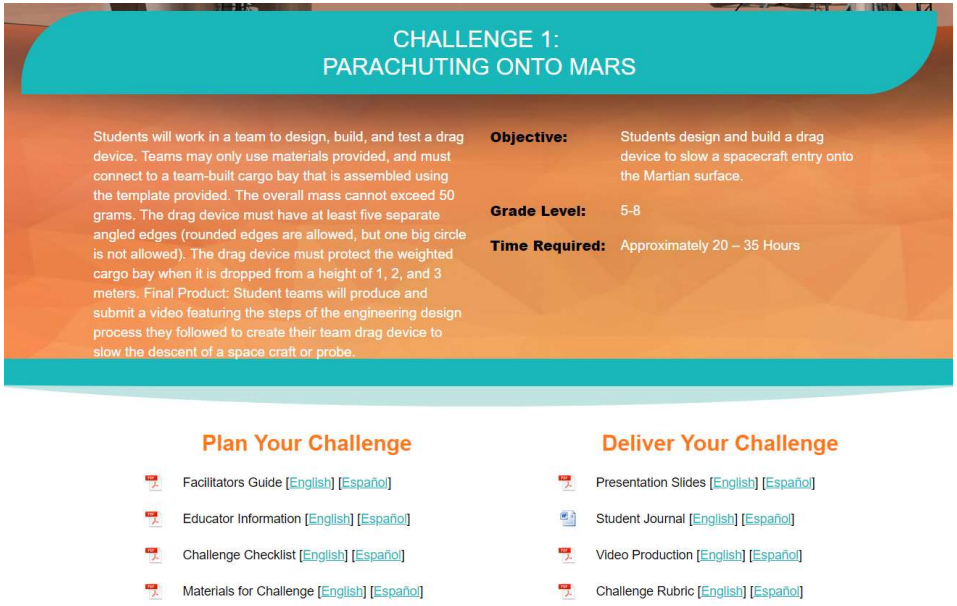


Mission to Mars
Develop a device to slow down spacecraft landing on Mars.

Challenge Guide Structure

Each challenge will include the following information:

- Lesson Plan
- Challenge Checklist for Instructors
- Introduction Video
- Classroom Presentation
  - (Suggested “script” included)
- Student Journal
- Rubric
- Final Product Submission Instructions
- Supporting Extension Links



You for Youth Web Portal
https://y4y.ed.gov/stemchallenge/nasa

Project Timeline (19-20 SY)

Activity	Date
State Application Released	Dec. 14, 2018
State Informational Briefing	Feb. 6, 2019
State Application Due to U.S. Department of Education	Feb. 12, 2019
States Selected	Feb. 15, 2019
Site Application Released	Feb. 21, 2019
Site Application Due	March 12, 2019
Sites Selected	March 15, 2019
State & Site Virtual Planning Meetings	March 25 – April 29, 2019
Site Profile Form Deadline	May 17, 2019
Face-to-Face Professional Development Workshops	June 1 – Sept. 30, 2019
Virtual Connections With NASA Experts and Students	Aug. 19, 2019 – Jan. 24, 2020
Deadline for Student Video Submissions	Jan. 31, 2020
State Culminating Event	Feb. 3- March 31, 2020

Face-to-Face Training Schedule

Location	Training Dates	Location	Training Dates
Grove City, Pennsylvania	June 4th - 5th	Austin, Texas	August 15th - 16th
Riverton, Wyoming	June 11th - 12th	Flint, Michigan	August 15th - 16th
Devens, Massachusetts	June 18th - 19th	Asheboro, North Carolina	August 19th - 20th
Orlando, Florida	June 25th - 26th	Charleston, West Virginia	August 22nd - 23rd
Lexington, Kentucky	June 26th - 27th	Madison, Wisconsin	August 27th - 28th
Syracuse, New York	July 8th - 9th	Coralville, Iowa	August 29th - 30th
Syracuse, New York	July 11th - 12th	Boise, Idaho	September 9th - 10th
Las Cruces, New Mexico	July 23rd - 24th	Roseville, Minnesota	September 12th - 13th
Kearney, Nebraska	July 25th - 26th	Helena, Montana	September 18th - 19th
Oklahoma City, Oklahoma	July 30th - 31st	Pickerington, Ohio	September 19th - 20th
Allentown, Pennsylvania	August 1st - 2nd	Clackamas, Oregon	September 23rd - 24th
Pawtucket, Rhode Island	August 7th -8th	Hampton, Virginia	September 26th - 27th
Austin, Texas	August 12th - 13th	Walla Walla, Washington	September 26th - 27th

Implementation Opportunities Across Next Two Academic Years

January 2019 – September 2021

Jan 2019	Apr 2020	July 19	Oct 19	Jan 20	Apr 20	Jul 20	Oct 20	Jan 2021	Apr 21	July 21	Sept 21

Application

- Site Application Due (3/12)
- State Application Due (2/12)
- States contacted for participation in 20/21 SY (Dec 2019)

Planning

- Planning Calls (Mar-Apr)
- Professional Development (June-Sept)
- Planning Calls (Feb-Mar)
- Professional Development (June-Sept)

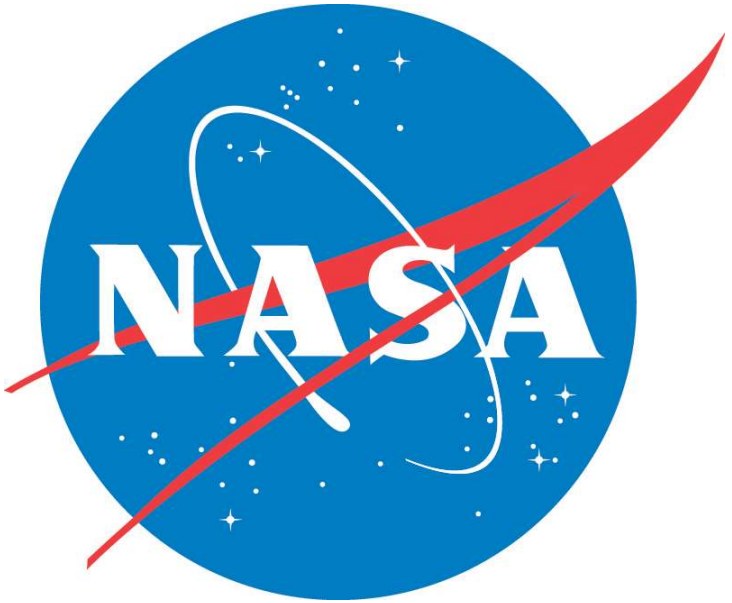
Implementation

- Sept '19 – Jan' 20
- Sept '20- April '21

19-20 SY Implementation

20-21 SY Implementation


DEPARTMENT OF EDUCATION
UNITED STATES OF AMERICA


NASA